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Amdt. Dated 07/25/2005
Reply to Office Action of 04/26/2005

REMARKS

This Amendment is in response to the Office Action mailed 04/26/2005. In the Office Action, claims 1-6 and 40-51 were rejected under 35 USC 112, second paragraph. Reexamination and reconsideration of this case is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-6 and 40-51 were previously pending. Claims 7-39 were previously cancelled. No claim has been cancelled by this response. Applicant has added new claims 52-55 by this response. Accordingly, claims 1-6 and 40-55 are now pending. Of the pending claims, claims 1, 43, and 49 are independent claims.

Applicant believes that no new matter has been added by this response.

I) Specification

Applicant has once again amended the Cross-Reference to Related Applications section, paragraph beginning on page 1, line 5 (corresponding to para. No. [0001] in the US patent application publication no. 2004/0078612), to update the status of the cross-noted applications to which this divisional patent application claims the benefit thereof.

Section 2 of the Office Action requested that Applicant identify portions of the specification describing limitations in the claim and figures representing the claimed invention.

In response, Applicant provides the following information:

A "digital signal processor integrated circuit … " is illustrated, for example, by Figure 3 and described in the

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detailed description within the paragraph beginning on page 20, line 10 (corresponding to para. No. [0110] in the US patent application publication no. 2004/0078612), as well as else where in the detailed description.

The element of "selectively swapping activity …" is described in the detailed description, for example, in the paragraph beginning at page 158, line 14 (corresponding to para. No. [0451] in the US patent application publication no. 2004/0078612), as well as elsewhere, and is illustrated by Figures 3, 7, and 8A-8B.

The element of "selectively stopping the clocking of …" is described in the detailed description, for example, in the two paragraphs beginning at page 159, line 18 (corresponding to para. Nos. [0452-0453] in the US patent application publication no. 2004/0078612), as well as elsewhere, and is illustrated by Figures 3, 7, and 8A-8B.

The element of "selectively activating …" is described in the detailed description, for example, in the three paragraphs beginning at page 157, line 3 (corresponding to para. Nos. [0448-0450] in the US patent application publication no. 2004/0078612), as well as elsewhere, and is illustrated by Figures 3, and 27-34.

II) Claim Rejections under 35 USC §112, 2nd Para.

In section 4 of the Office Action, claims 1-6 and 40-51 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly

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claim the subject matter which applicant regards as the invention. Applicant respectfully traverses this rejection.

Applicant has amended claims 1-6, and 40-51 to clarify the claimed invention and not for reasons related to patentability.

"A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art. Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. As noted by the Court in In re Swinehart, 439 F.2d 210, 160 USPQ 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought." [MPEP 2173.01, 8th Edition, Rev. 2, May 2004, Page 2100-205].

Also, "[d]efiniteness of claim language must be analyzed, not in a vacuum, but in light of: (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." [MPEP § 2173.02, 8th Edition, Rev. 2, May 2004, Page 2100-205].

Additionally, method of process claims typically include one or more functional limitations. "A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with

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defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper." [MPEP 2173.05(g), 8th Ed., Rev. 2, May 2004, page 2100-2123 citing In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971)].

Regarding independent claims 1, 43, and 49, the Office Action specifically states "(a) Claim 1, it is not clear what are the relationships among the method steps. A mere collection of unrelated method steps does not present a comprehensive invention." [Office Action, page 2, lines 10-11].

However, Applicant's functional claim elements are interrelated as each operate on functional blocks in an integrated circuit, such as the functional blocks of the "digital signal processor integrated circuit", the first limitation of claim 1.

Moreover, all the functional claim elements are working towards the same goal or result, conserving power, as is recited in the preamble of independent claims 1, 43, and 49.

Additionally, the basis for the Office Action's rejection seems to be that Applicant's claim elements are an aggregation. However, a "claim should not be rejected on the ground of 'aggregation'". [MPEP § 2173.05(k), 8th Ed., Rev. 2, May 2004, Page 2100-215, citing In re Gustafson, 141 USPQ 585 (CCPA 1964)]. The Board of Appeals has also rejected the old aggregation (lack of cooperation) doctrine. "[I]t is not essential to a patentable combination that there be interdependency between the elements of the claimed device or that all the elements operate concurrently toward the desired result." "'[A]ggregation' as a ground of rejection is nebulous

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and has no basis under the Patent Act of 1952." [Ex Parte
Nolden, 149 USPQ 378, 380 (Bd. App. 1965)]

The Office Action further states "(b) Claim 1, "swapping
activity" is an abstract description and does not define a
physical operation." [Office Action, page 2, lines 12-13].

As previously discussed, the element of "selectively
swapping activity ..." is described in the detailed description in
the paragraph beginning at page 158, line 14 (corresponding to
para. No. [0451] in the US patent application publication no.
2004/0078612), as well as elsewhere, and illustrated by Figures
3, 7, and 8A-8B, for example.

Applicant's detailed description states, "While a RISC
instruction is executed any DSP instruction is inactive. While
a DSP instruction is executed, RISC instruction execution is
inactive. Referring momentarily to Figure 3, this means that
when the RISC 302 is active, the signal processors SP0-SP3 300A-
300D are inactive. When the signal processors SP0-SP3 300A-300D
are active, the RISC 302 is inactive. In this manner, *the RISC
302 and the SPs 300 swap back and forth between which is active*
depending upon whether a RISC instruction is to be executed or a
DSP instruction is to be executed." (emphasis added)
[Applicant's specification, page 158, line 30 to page 159, line
6; (para. No. [0451], US patent application publication no.
2004/0078612)].

Given this description from Applicant's specification,
Applicant respectfully submits that the scope of the invention
sought to be patented can be determined from the language of the
claims with a reasonable degree of certainty in view of
Applicant's disclosure and the claim interpretation that would

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be given by one possessing the ordinary level of skill in art at the time the invention was made.

Moreover, Applicant knows of no requirement in the patent statutes or rules that requires a method element define a physical operation. Oftentimes, logical operations are performed by method elements such as by circuits or software without any physical operation.

The Office Action further states "(c) Claim 1, it is not clear what is meant by "selectively activating ... memory" as to what aspect of the memory is activated. It is not clear what physical operations are performed by "activating" and "maintaining a status"." [Office Action, page 2, lines 14-16].

As discussed previously, the element of "selectively activating …" is described in the detailed description, for example, in the three paragraphs beginning at page 157, line 3 (corresponding to para. nos. [0448-0450] in the US patent application publication no. 2004/0078612), as well as elsewhere, and illustrated by Figures 3, and 27-34.

With reference to Figure 27, Applicant's detailed description states "the memory clusters 2710 of the global buffer memory 210 lower power consumption by *switching only those busses which need switching to access data from the one or more memory blocks 2712 within one active cluster. The upper two bits of address bus 2707 into the global buffer memory 210 selects which memory block and cluster is to be accessed cycle by cycle.* In the case cluster 2710AA is accessed, one of the data bus in DBIN 2718AA or data bus out DBOUT 2719AA are switched and the one address bus for a memory block within the address bus ADD 2717AA is switched. The R/W and the CS strobe for the respective memory block being accessed are also

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activated. Referring momentarily to Figures 33 and 34, the other data input, data output and address buses of the **other memory clusters remain in a stable state** by the bus state keepers 3402A-3402D and the bus state keeper 3312 in each address mapper 3302A-3302N and the bus state keeper 3452 in each collar logic 2713 of each memory cluster. The detail of an exemplary bus state keeper 3112, 3312, 3402 and 3452 is illustrated in Figure 35. By keeping the address on the address bus as the prior address into each memory block of each memory cluster, a new address need not be evaluated by each memory and thus switching inside the memory blocks can be avoided as well." (emphasis added) [Applicant's specification, page 157, line 13 to page 158, line 3; (para. No. [0449], US patent application publication no. 2004/0078612)].

Given this description from Applicant's specification, Applicant respectfully submits that the scope of the invention sought to be patented can be determined from the language of the claims with a reasonable degree of certainty in view of Applicant's disclosure and the claim interpretation that would be given by one possessing the ordinary level of skill in art at the time the invention was made.

As previously mentioned, Applicant knows of no requirement in the patent statutes or rules that requires a method element define a physical operation in order for it to be definite. Oftentimes, logical operations are performed as recited by method elements, such as by circuits or software without any physical operation.

For the foregoing reasons, Applicant respectfully submits that independent claims 1, 43, and 49 particularly point out and

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distinctly claim the subject matter which Applicant regards as the invention.

Regarding claims 2 and 44, the Office Action states "(d) Claim 2, it is not clear how "activating and inactivating" represent "swapping activities". [Office Action, page 2, lines 17-18].

Applicant has amended dependent claims 2 and 44 to clarify that the activity is being swapped from the RISC processor to the one or more DSP units which includes inactivating bus drivers on data paths in the RISC processor and activating bus drivers on data paths in the one or more DSP units.

In contrast, Applicant has added new claims 52 and 53 to recite that the activity is being swapped from the one or more DSP units to the RISC processor which includes inactivating bus drivers on data paths in the one or more DSP units and activating bus drivers on data paths in the RISC processor.

Applicant believes this amendment to claims 2 and 44 now makes this rejection to them moot.

Regarding claims 3 and 40, the Office Action states "(e) Claim 3, the limitation is confusing." [Office Action, page 2, line 19].

Applicant has amended dependent claims 3 and 40 to clarify that the data flow path that is selected to change state is between the one activated memory cluster, the RISC processor, and the one or more DSP units. Applicant has further amended dependent claims 3 and 40 to clarify that the data flow paths between the inactivated memory clusters, the RISC processor, and the one or more DSP units maintain their state.

Applicant believes these amendments to claims 3 and 40 now makes this rejection to them moot.

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Regarding claims 4, 5, 41, 46-47, and 50, the Office Action states " (f) claim 4, "being inactive" and "not executing" are not physical signals to respond to." [Office Action, page 2, lines 20-21].

Claims 4 and 46 do not recite a limitation of "not executing" but claims 5, 41, 47, and 50 do. Applicant believes that there is a typographical error in the office action and that this portion of the claim rejection ("not executing") is directed to claims 5, 41, 47, and 50.

The Office Action seems to be analyzing the claims in a piecemeal fashion focusing on the phrases "being inactive" and "not executing" without regard to other limitations within the claims. As amended, the element in claim 4 as a whole recites "the selective stopping of the clocking of the one or more DSP units is responsive to the respective one or more DSP units being inactive." [Claim 4, lines 2-3]. As amended, the element in claims 5, 41, 47, and 50 as a whole recites "the selective stopping of the clocking of the one or more DSP units is responsive to the respective one or more DSP units not executing an instruction." [Claim 5, lines 2-3]. Each describes a condition or state of the respective one or more DSP units under which the functional element of selective stopping of clocking may occur.

As described in the specification, "when the RISC 302 is active, the signal processors SP0-SP3 300A-300D are inactive. When the signal processors SP0-SP3 300A-300D are active, the RISC 302 is inactive. In this manner, the RISC 302 and the SPs 300 swap back and forth between which is active depending upon whether a RISC instruction is to be executed or a DSP instruction is to be executed." [Specification, page 158, line

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3 to page 159, line 6; (para. No. [0451], US patent application publication no. 2004/0078612)]. "Power consumption is further lowered when the RISC 302 or the signal processors SP0-SP3 300A-300D are inactive by inactivating the data paths therein by using well known gated clocking structures. The gated clocking is provided on an instruction by instruction basis. Each instruction can shut down different parts of the logic circuitry and data paths to reduce switching. Because data busses are typically wide (e.g. 64 bits) in digital signal processors to process more information in parallel, reducing the switching of signals thereon conserves the amount of power consumed. [Specification, page 159, lines 18-28; (para. No. [0452], US patent application publication no. 2004/0078612)]. "The type of instruction can gate the clocks of the various functional blocks ON or OFF so that changes in state of the circuitry need not occur." [Specification, page 160, lines 1-3; (para. No. [0453], US patent application publication no. 2004/0078612)].

Given this description from Applicant's specification, Applicant respectfully submits that the scope of the invention sought to be patented can be determined from the language of the claims with a reasonable degree of certainty in view of Applicant's disclosure and the claim interpretation that would be given by one possessing the ordinary level of skill in art at the time the invention was made.

Moreover, Applicant knows of no patent statute or patent rule that requires that elements can only be responsive to physical signals in order for a claim to be definite. Oftentimes, claims recite elements that are responsive to conditions, states, or other elements that are not physical signals. For example, claim 1 of US Pat. No. 6,920,385 recites

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"a reaction force application device, responsive to the selection device". Claim 6 of US Pat. No. 6,918,337 recites "applying ink from an ink container to at least one rotating printing block responsive to rotation of the at least one tamp pad". Claim 1 of US Pat. No. 6,919,521 recites a "diaphragm responsive to the ambient pressure". Claim 7 of US Pat. No. 4,398,479 recites a "means responsive to each inactive stroke of the needles".

Thus, Applicant respectfully submits that dependent claims 4, 5, 41, 46-47, and 50 are not indefinite.

Claims 6, 42, 48, and 51 were not specifically mentioned by the Office Action as having indefinite claim language. It is beleived these claims were rejected for being dependent upon rejected base claims.

Claim 6 is dependent upon independent claim 1. Claim 42 depends from dependent claim 40 that depends from claim 2 and then independent claim 1. Claim 48 depends from depends from independent claim 43. Claim 51 depends from independent claim 49. Applicant beleives that independent claims 1, 43, and 49 are in condition for allowance, as well as dependent claims 2 and 40, such that these dependent claims are also in condition for allowance.

For the foregoing reasons, Applicant respectfully request the withdrawal of the 35 U.S.C. 112, second paragraph claim rejection of claims 1-6, and 40-51.

III) **New Claims**

Applicant has added new dependent claims 52-55.

New claim 52 depends indirectly from independent claim 1.

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New claim 53 depends indirectly from independent claim 43.

New claims 54-55 depend directly from independent claim 49.

As Applicant believes independent claims 1, 43, and 49 have now overcome the 35 USC 112, second paragraph rejection, it is believed that dependent claims depending there-from with further limitations are also definite and in condition for allowance therewith.

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CONCLUSION

In view of the foregoing it is respectfully submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance of the claims at an early date is solicited.

The Examiner is invited to contact Applicant's undersigned counsel by telephone at (714) 557-3800 to expedite the prosecution of this case should there be any unresolved matters remaining.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. If any other petition is necessary for consideration of this paper, it is hereby so petitioned. Please charge any shortage in fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such deposit account.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Dated: July 25, 2005
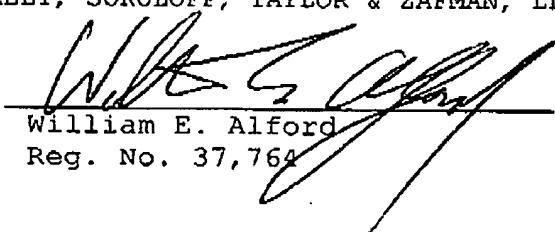
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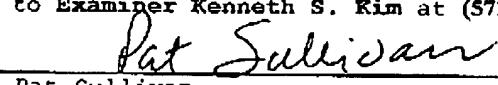
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